State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #_____
HRI #_____
Trinomial_____
NRHP Status Code_____
Other Listings_____
Review Code_____ Reviewer_____ Date_____

 Resource name(s) or number(assigned by recorder) N-226

P1. Other Identifier: Office of Education, 6'x6' Supersonic Wind Tunnel Lab

***P2. Location:** ☒Not for Publication ☐Unrestricted ***a. County** Santa Clara
***b. USGS 7.5' Quad** San Francisco North, Calif. **Date:** 1995
***c. Address** 850 De France Avenue **City** Moffett Field **Zip** 94035
***e. Other Locational Data:**

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

Building N-226 was built as a support building to a 6'x6' supersonic wind tunnel. Building N-226 is a two-story building with a concrete foundation, exposed concrete walls, and a flat roof. The building's massing is simple and ornamental detail is minimal. This building features simple, flat, horizontal concrete bands that run across each façade. The bands articulate the first and second floors. The building has three over three metal awning windows that are sandwiched between the concrete bands. These windows appear in regularly spaced groups of either two or three. Each set of windows is separated by concrete piers with grooves that align with the window mullions. The front (east) of the building has three entries. Each entry is marked with a simple concrete awning with rounded corners. The entry doors are aluminum storefront and are not original to the building. The rear (west) side of the building has an addition. The addition is exposed concrete and provides the connection to the 6' x 6' wind tunnel.

This building appears to be in good condition.

***P3b. Resource Attributes:** (list attributes and codes) HP 39– Other, Laboratory & Research

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5a. Photo

P5b. Photo: (view and date)
View of west and south façades, (8/12/05)

***P6. Date Constructed/Age and Sources:** 1946-48

***P7. Owner and Address:**
United States of America as represented by National Aeronautics and Space Administration (NASA)

***P8. Recorded by:**
Page & Turnbull, Inc.
724 Pine Street
San Francisco, CA 94108

***P9. Date Recorded:** 08/12/05

***P10. Survey Type:**
Reconnaissance

***P11. Report Citation:** Lori Neff, *Department of Parks and Recreation – Historic Resources Inventory "Bldg. N226, 6 X 6 Ft. Supersonic Wind Tunnel,"* (1995).

***Attachments:** ☐None ☐Location Map ☐Sketch Map ☐Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (list)

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 2S2

*Resource Name or # N-226

B1. Historic name: 6x6 ft Supersonic Wind Tunnel
B2. Common name: 6x6 ft Supersonic Wind Tunnel
B3. Original Use: B4. Present use:
***B5. Architectural Style:** Moderne with 20th-Century Industrial influences
***B6. Construction History:** (Construction date, alterations, and date of alterations)
1948 – Date of Construction; 1955 – Alterations to wind tunnel; 1980s – Decommission of the test section of wind tunnel; 1991 – Remodeling of second floor interior

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:**_____ **Original Location:**_____
***B8. Related Features:**
Significant architectural features include the concrete exterior, scored concrete detailing, and connection to the adjacent wind tunnel.

B9a. Architect: National Advisory Committee for Aeromautics (NACA) Engineers b. Builder:
***B10. Significance: Theme** Post-War Science and Space Exploration **Area** NASA Ames Research Center
Period of Significance 1948-1988 **Property Type** Wind Tunnel **Applicable Criteria** 1
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity)

Building N-226 houses the 6x6 ft Supersonic Wind Tunnel. This building is significant at the national level under Criterion 1 (Events) for its direct association with supersonic flight research and for its use as a supersonic wind tunnel testing facility (1948 – 1988). Additionally, this building is significant under Criterion 3 (Design/Construction) as an exceptional engineering accomplishment in the context of wind tunnel construction. Building N-226 played a crucial role in the discovery of supersonic flight research, which subsequently led to improved designs of supersonic aircrafts and missiles. Although the building has been altered in its interior, these alterations do not affect the building's integrity. Thus, this building possesses integrity of location, design, setting, materials, workmanship, feeling, and association.

See Continuation Sheet for technical description.

B11. Additional Resource Attributes: (List attributes and codes) (HP39) -- Wind Tunnel

***B12. References:**

- Lori Neff, *Department of Parks and Recreation – Historic Resources Inventory "Bldg. N226, 6 X 6 Ft. Wind Tunnel,"* (1995).
- National Register of Historic Places nomination, *Ames Aeronautical Laboratory 6x6 Supersonic Wind Tunnel* (n.d.) [information obtained from NASA Ames Research Center staff]
- Donald Baels and William R. Corliss, *The Wind Tunnels of NASA* (NASA SP-440, 1981)
- National Aeronautics and Space Administration, *Technical Facilities Catalog*, Volume 1, publication NHB 8800.5A (1), October 1974.
- Technical Information Division, Ames Research Center, *Ames Research Facilities Summary,* 1974.

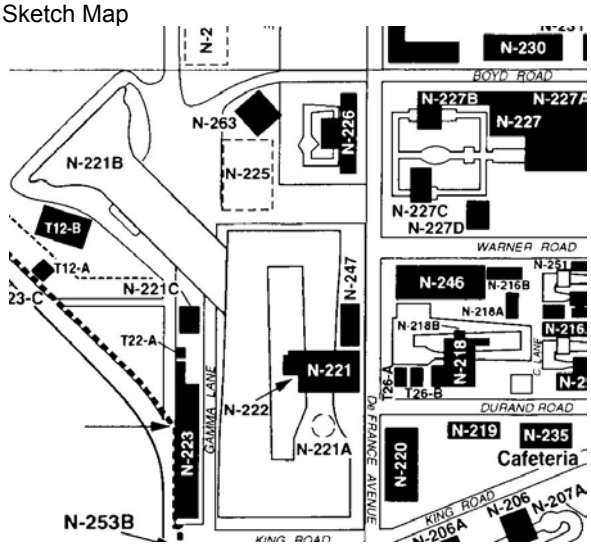
B13. Remarks:
This building is in the process of being nominated to the National Register of Historic Places.

***B14. Evaluator:** Rich Sucre
Page & Turnbull, Inc.
724 Pine Street
San Francisco, CA 94108

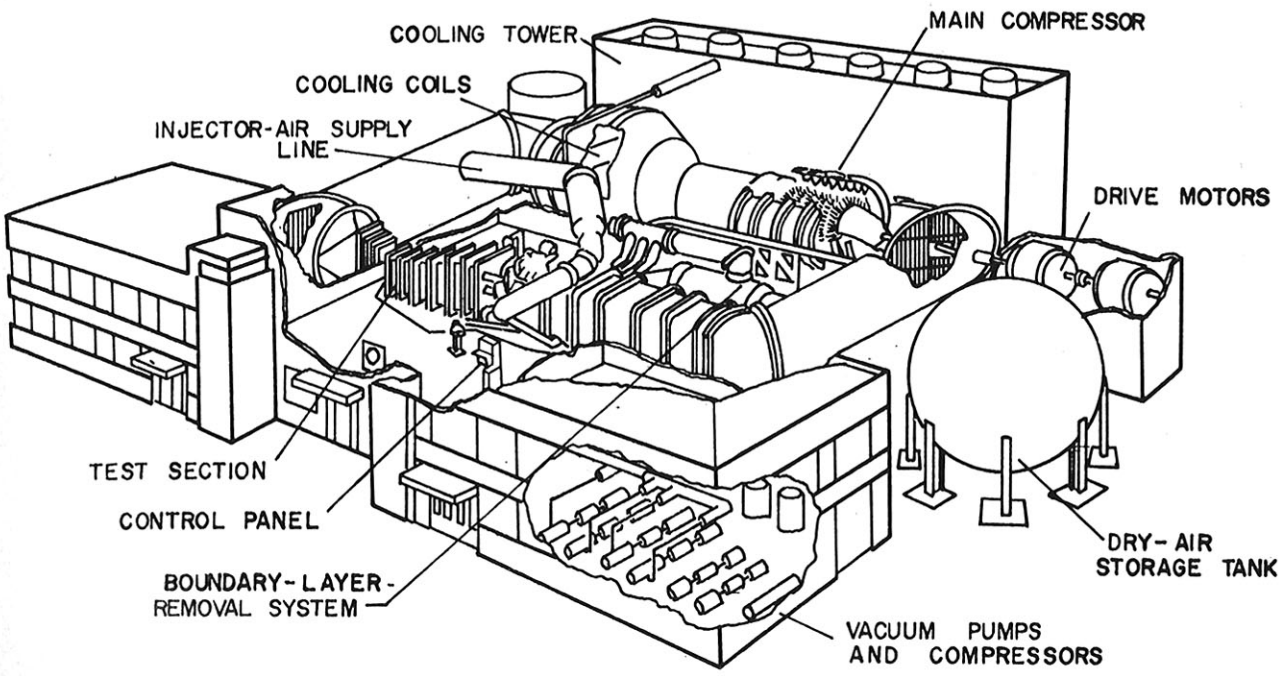
***Date of Evaluation:** 10/18/2005

(This space reserved for official comments.)

Sketch Map



N226



DESCRIPTION

The 6-ft x 6-ft supersonic wind tunnel is a closed-circuit, single-return tunnel. It has an asymmetric sliding-block nozzle and a test section with perforated floor and ceiling to permit transonic testing. The air is driven by an 8-stage, axial-flow compressor powered by 2 electric motors mounted in tandem outside the wind tunnel. The drive system is rated 60,000 hp.

CHARACTERISTICS

Mach Number:	0.25 to 2.2, continuously variable
Reynolds Number, per ft:	1.0×10^6 to 5.0×10^6
Stagnation Pressure, atm:	0.3 to 1.0
Stagnation Temperature:	580°R, max
Test-Section Height, ft:	6.0
Test-Section Width, ft:	6.0
Test-Section Length, ft:	14.4
Test-Section Doors, ft:	5.0 x 5.0, in both sides of wind tunnel

CURRENT STATUS — INACTIVE - REUTILIZED AS EDUCATIONAL OUTREACH FACILITY

7. SIX-BY SIX-FOOT SUPERSONIC WIND TUNNEL

DESCRIPTION:

The Six-by Six-Foot Supersonic Wind Tunnel is a closed-circuit, single-return tunnel equipped with an asymmetric sliding-block nozzle and a test section with a perforated floor and ceiling. Airflow is produced by an eight-stage, axial-flow compressor powered by two electric motors mounted in tandem outside the tunnel delivering a total of 60,000 horsepower.

For conventional, steady-state testing models are generally supported on a sting. Internal strain-gage balances are used for measuring forces and moments. (Additional facilities are available for measuring multiple steady or fluctuating pressures.)

A schlieren system is available for studying flow patterns by direct viewing or photography, as well as a system for obtaining 20-by 20-inch shadowgraph negatives.

PERFORMANCE:

Mach Number	0.25 to 2.2 (continuously variable)
Stagnation Pressure	0.3 to 1.0 atmospheres
Reynolds Number	1.0×10^6 to 5.0×10^6 per foot
Stagnation Temperature	580° R

DIMENSIONS: Test Section

Height	6.0 feet
Width	6.0 feet
Length	14.4 feet
Access	Side doors — 5.0 X 5.0 feet

STATUS:

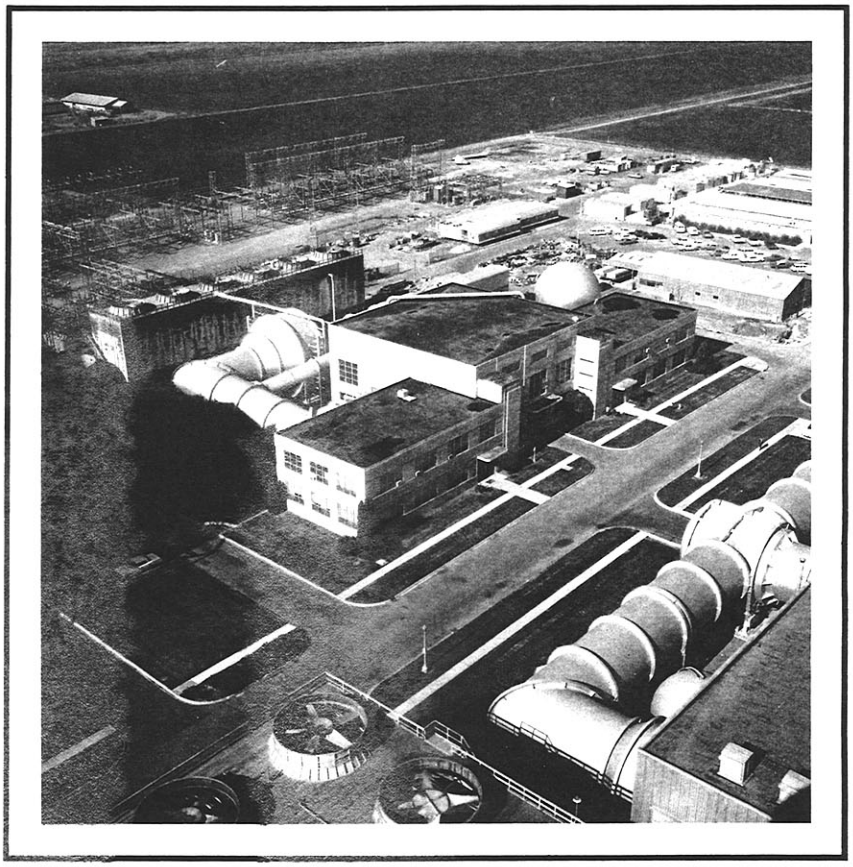
Operational since 1948

JURISDICTION:

Aeronautics Division
Experimental Investigations Branch
Stuart Treon

LOCATION:

Building N-226



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Page 1 of 1 **Resource name(s) or number**(assigned by recorder) Cooling Towers behind N-226

P1. Other Identifier: Material, Equipment Storage
***P2. Location:** ☒Not for Publication ☐Unrestricted ***a. County** Santa Clara
***b. USGS 7.5' Quad** San Francisco North, Calif. **Date:** 1995
***c. Address** De France Avenue **City** Moffett Field **Zip** 94035
***e. Other Locational Data:** Assessor's Parcel Number Block: Lot:

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

There are several cooling towers on the north side of Building N-226. The cooling towers sit on a rectangular concrete foundation and have a wood screen built around them. The screen is clad with horizontal wood boards and has wood stairs on both the east and west sides. Wood louvers run along the perimeter of the foundation. Only the top portion of the cooling towers are visible above the screen. The cooling towers serve Building N-226 and are approximately 67,700 sq. ft.

This structure appears to be in fair condition.

***P3b. Resource Attributes:** (list attributes and codes) HP 4 – Ancillary Building

***P4. Resources Present:** ☐Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5a. Photo

P5b. Photo: (view and date)
08/12/05

***P6. Date Constructed/Age and Sources:** Unknown

***P7. Owner and Address:**
United States of America as represented by National Aeronautics and Space Administration (NASA)

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Reconnaissance

***P11. Report Citation:** None

***Attachments:** ☒None ☐Location Map ☐Sketch Map ☐Continuation Sheet ☐Building, Structure, and Object Record
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☐Artifact Record ☐Photograph Record ☐ Other (list)